Agilent 34980A
Multifunction Switch/Measure Unit

Getting Started Guide

Agilent Technologies

Notices

Manual Part Number

34980-90004

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CAUTION

Safety Notices

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated

WARNING

conditions are fully understood and met.

A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

Contents of Your Shipment

With your 34980A mainframe, you will receive these items:

- English Agilent 34980A User's Guide/ Agilent 34980A Getting Started Guide kit (part number 34980-90000)
- Agilent 34980A Product Reference CD-ROM (part number 34980-13601). This CD is located on the inside back cover of the 34980A User's Guide. The CD contains:
  - Software and Drivers
  - Product Documentation
  - Product Data Sheet
  - Application Notes
  - Other product information
- LAN Crossover Cable to use for isolated (non-site) LAN connections (part number 5061-0701)
- Power cord for your country or geographical region
- Small flathead screwdriver to connect wires to optional terminal blocks
- Agilent E2094 IO Libraries Suite consisting of:
  - Automation-Ready CD with Agilent IO Libraries Suite
  - Quick Start Page

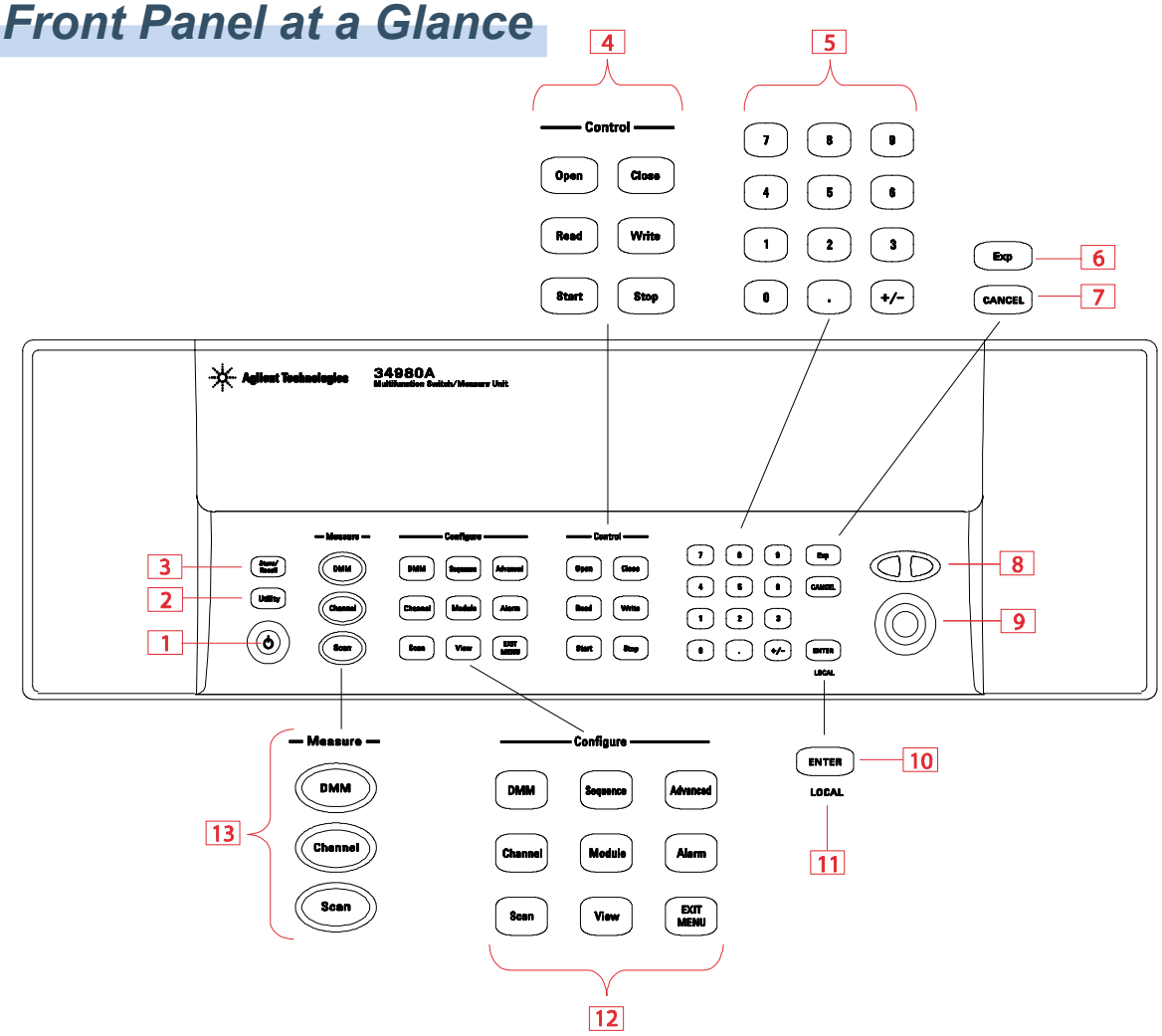
If you ordered Agilent plug-in modules, they will be shipped separately from the 34980A mainframe. If you have ordered optional terminal blocks with your modules, they will be included in the shipment with your modules. You will find information about the modules in the 34980A User's Guide.

If you have questions about your shipment, or if you need information about warranty, service, or technical support, contact Agilent Technologies:

In the United States: (800) 829-4444
In Europe: 31 20 547 2111
In Japan: 0120-421-345

Or, use our Web link at www.agilent.com/find/assist for information on contacting Agilent in your country or specific location. You can also contact your Agilent Technologies representative.

Front Panel at a Glance



1 On/Standby switch: **WARNING** This switch is standby only. To disconnect the mains from the instrument, remove the power cord.
2 Utility menu contains settings for Remote I/O (LAN, GPIB, and USB), Date and Time, and other system-related instrument parameters
3 Store/recall menu allows you to save and recall up to six instrument setups
4 Control keys directly control module actions
5 Number keypad enters numerical characters
6 Exponent
7 Cancel key exits a menu without saving changes
8 Arrow keys move cursor positions
9 Knob enters alphanumeric characters, selects slots, channels, and navigates menus
10 Enter key steps you through a menu or saves number entries
11 Running a program puts the display into "remote" and disables the front panel keys. Local takes you out of "remote" mode and enables the front panel keys.
12 Configure keys select functions and set function parameters
13 Measure keys execute and monitor measurements. Depending on which measurement key you use, you can have complete/direct control over the switching and measurement operation, or you can have the 34980A automatically control these to capture the desired data.

NOTE: For more information about menu content, see the Front Panel Menu Reference in the Agilent 34980A User's Guide.

Rear Panel at a Glance

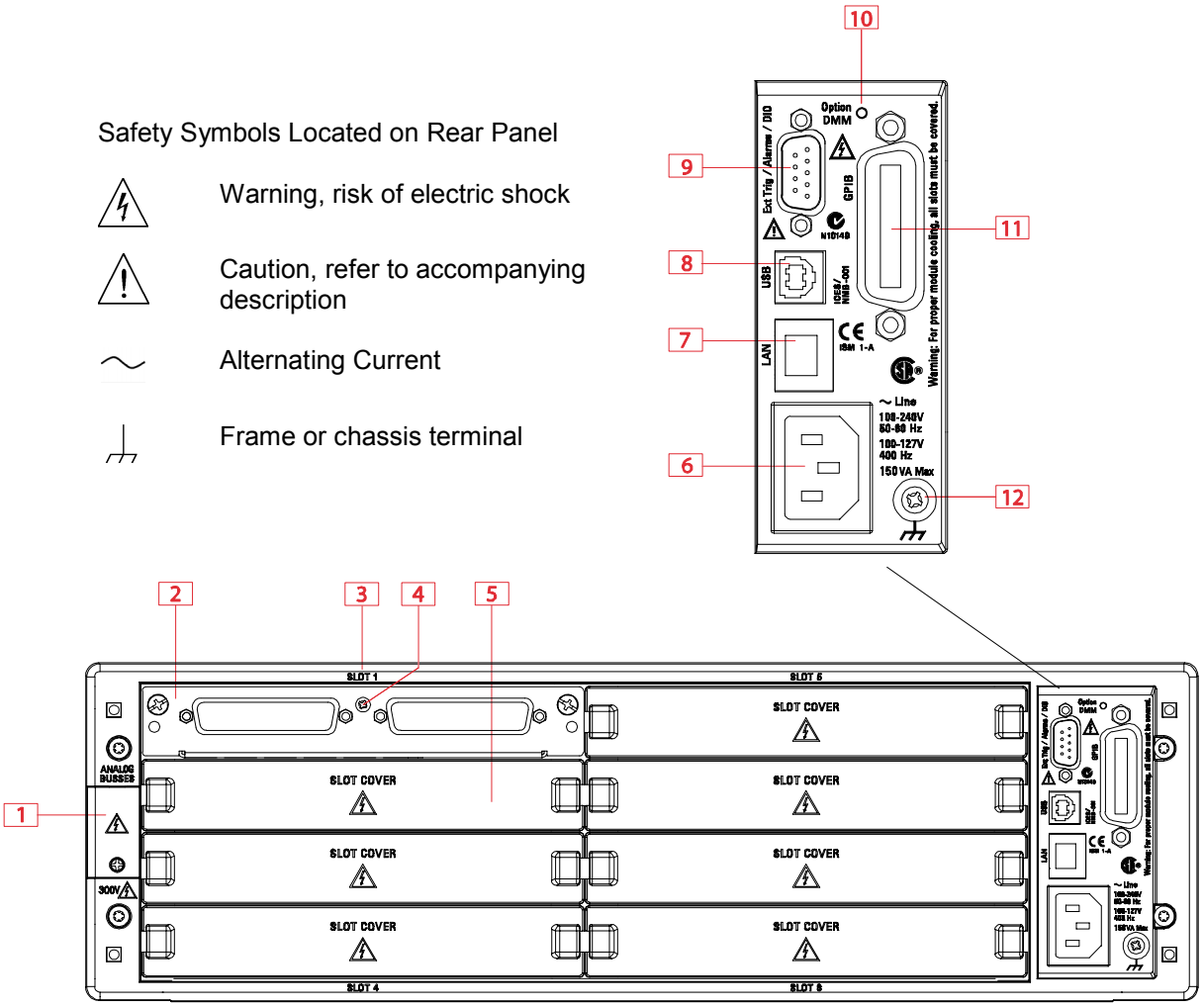
Safety Symbols Located on Rear Panel

Warning, risk of electric shock

Caution, refer to accompanying description

Alternating Current

Frame or chassis terminal



1 Access to Analog Buses (shown with cover installed). See User's Guide for pinout
2 Module installed in slot 1
3 Slot identifier
4 Module ground screw
5 Slot cover over slot 2
6 AC power connector
7 LAN connector (10Base T/100Base Tx)
8 USB 2.0 connector
9 External trigger/alarm/digital I/O connector. See User's Guide for pinout
10 Internal DMM option mark. If you ordered the internal DMM option, the circle is marked black.
11 IEEE 488.2 GPIB Connector
12 Chassis ground screw

Supplemental Safety Notices

In addition to safety notices and safety symbols mentioned elsewhere in this document, the following general safety precautions must also be observed during all phases of operation of this instrument. Failure to comply with these precautions or with specific warnings or instructions elsewhere in this manual violates safety standards of design, manufacture, and intended use of the instrument. Agilent Technologies assumes no liability for the customer's failure to comply with these requirements.

General

Do not use this instrument in any manner not specified by the manufacturer. The protective features of this instsrument may be impaired if it is used in a manner not specified in the operation instructions.

Before Applying Power

Verify that all safety precautions are taken. Make all connections to the unit before applying power.

Ground the Instrument

This product is provided with protective earth terminals. To minimize shock hazard, the instrument must be connected to the ac power mains through a grounded power cable, with the ground wire firmly connected to an electrical ground (safety ground) at the power outlet. Any interruption of the protective (grounding) conductor or disconnection of the protective earth terminal will cause a potential shock hazard that could result in personal injury.

Do Not Operate in an Explosive Atmosphere

Do not operate the instrument in the presence of flammable gases or fumes.

Do Not Remove the Instrument Cover

Only qualified, service-trained personnel who are aware of the hazards involved should remove instrument covers. Always disconnect the power cable and any external circuits before removing the instrument cover.

Do Not Modify the Instrument

Do not install substitute parts or perform any unauthorized modification to the instrument. Return the instrument to an Agilent Sales and Service Office for service and repair to ensure that safety features are maintained.

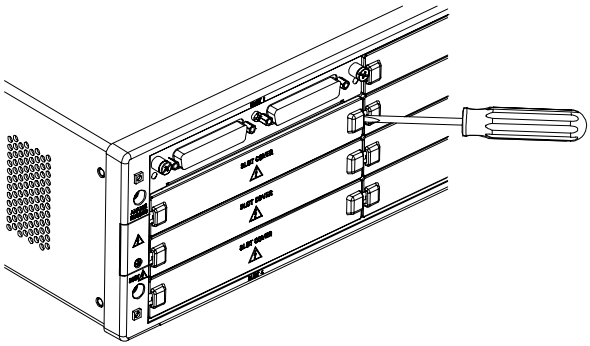
In Case of Damage

Instruments that appear damaged or defective should be made inoperative and secured against unintended operation until they can be repaired by qualified service personnel.

Removing a Slot Cover

Your 34980A arrives with one slot uncovered and seven slots covered. When performing tasks in this document to become familiar with the instrument, you will install a module into the Slot 1. When you are ready to install additional modules, follow this procedure to remove a slot cover.

Using a flat screwdriver, pry each side of the slot cover until the cover pops away from the slot. You are now able to install a module in this slot.



WARNING Hazardous voltages may be exposed on analog bus connectors. Always cover all unused slots.

CAUTION For proper module cooling, all unused slots must be covered.

CAUTION Do not block air intake or exhaust vents at the sides of the instrument.

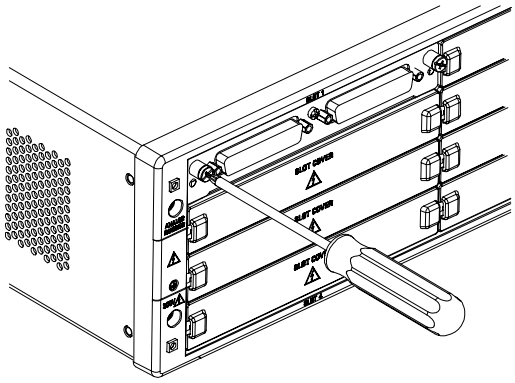
Installing a Module

Installing a Module to Use with Cables

If you choose to use cables for your connections, follow these instructions for installing a module. If you choose to use a terminal block, refer to page 6.

1. Install the module into the open mainframe slot until it fully seats within the mainframe.
2. Using a Pozidriv #1 screwdriver, tighten the screws to secure the module in the mainframe. Installation is complete.

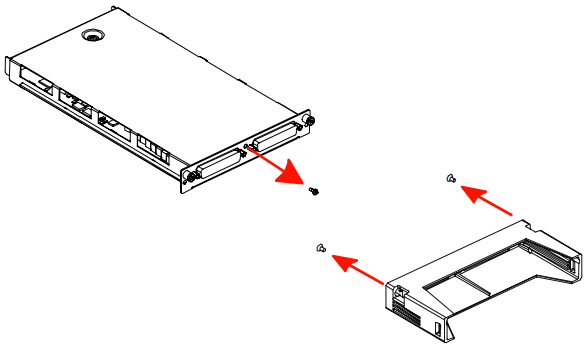
NEXT STEP: Proceed to “Operating the Front Panel Keyboard” on page 9.



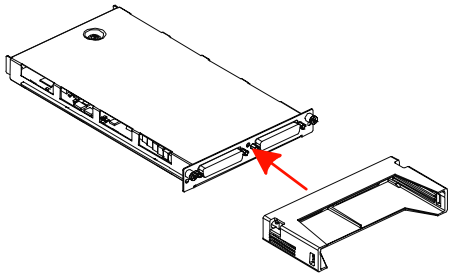
Installing a Module to Use with Terminal Blocks

Modules, excluding RF and microwave modules, can use compatible terminal blocks (optional accessories 349*xx*T) that provide screw-type or solder cup terminals for your wire connections. If you use terminal blocks, follow all steps in this section in the order they are presented.

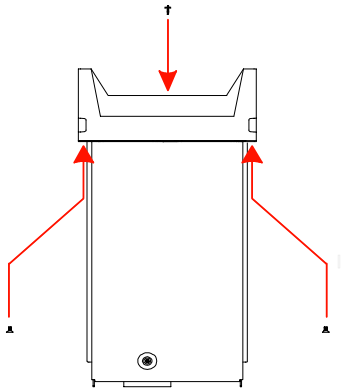
Step 1. Using a Pozidriv #1 screwdriver, remove the panhead ground screw from between the connectors on the module and the two flathead screws from the support sleeve.



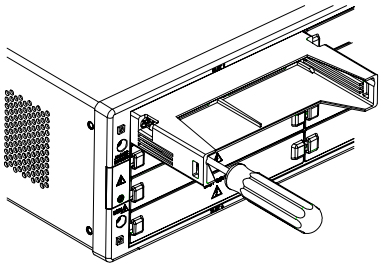
Step 2. Fit the terminal block support sleeve against the module so the openings on the sleeve line up with the connectors and the center screw hole on the module.



Step 3. Replace the panhead screw. Then replace and tighten the two flathead screws to firmly hold the sleeve to the module.



Step 4. Install the module into a mainframe slot until it fully seats within the mainframe. Using a Pozidriv #1 screwdriver, tighten the screws to secure the module in the mainframe. Installation is complete.



NEXT STEP: Proceed to “Wiring and Installing a Terminal Block ” on page 7.

Wiring and Installing a Terminal Block

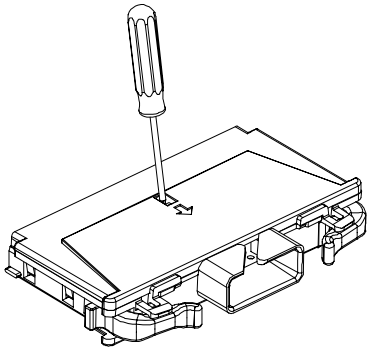
If you are using a terminal block with a module, use the instructions in this section to wire and install it. Follow these steps in the order they are presented.

Wiring a Terminal Block

WARNING Before you begin this task, make sure you have disconnected power from any wires you plan to connect to the terminal block.

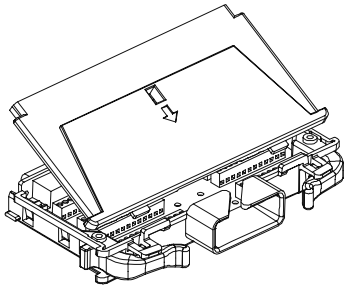
NOTE: For pinout diagrams refer to the 34980A User's Guide, which is shipped with your 34980A.

Step 1. To remove the terminal block cover, insert a screwdriver into the cover hole. Gently push the tab in the direction of the arrow.

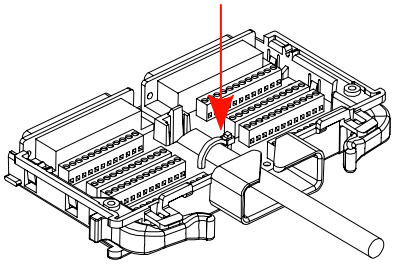


Step 2. At the same time, grasp the terminal block across the top and lift the clear plastic cover at the D-sub connector end to release and rotate up. Slide the cover from beneath the tab holders, and begin wiring.

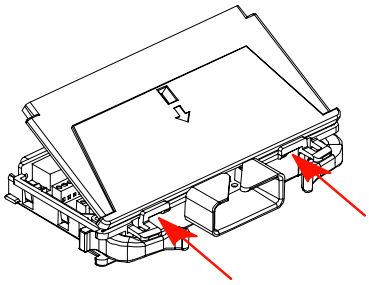
NOTE: If you are wiring a terminal block with screw-type terminals, use the small flathead screwdriver that was shipped with your 34980A mainframe to connect wires to the screw terminals.



Step 3. After you have completed wiring the terminal card, use a 2.5 mm cable tie near the cable entry to the terminal for strain relief.

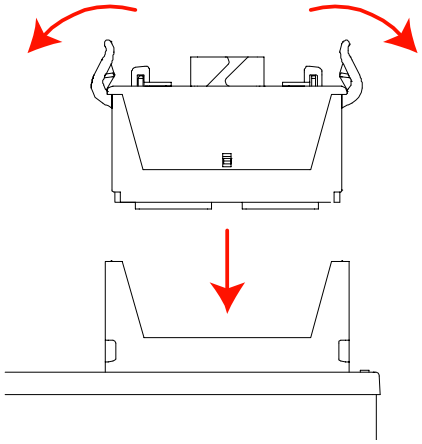


Step 4. To replace the cover, slide the cover tabs into the tab holders on the terminal block. Snap the cover into place so it fits securely. Wiring of the terminal block is complete.

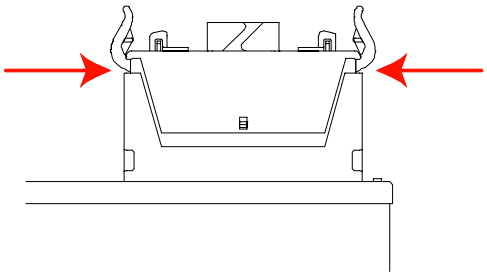


Installing a Terminal Block

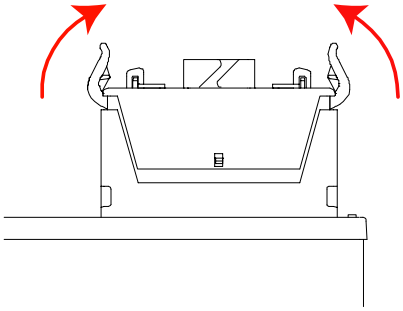
Step 1. Push the levers on the terminal block to the fully open position. Then slide the terminal block into the instrument-mounted terminal support sleeve until...



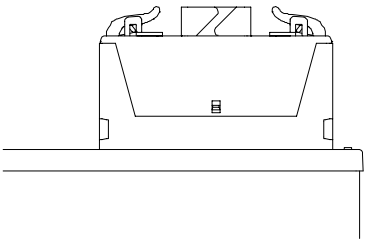
…the terminal block stops at the points indicated by the arrows in the drawing below.



Step 2. Carefully move the levers…



…until they are in the fully closed position. Installation of the terminal block is now complete.



NEXT STEP: Proceed to “Operating the Front Panel Keyboard” on page 9.

Operating the Front Panel Keyboard

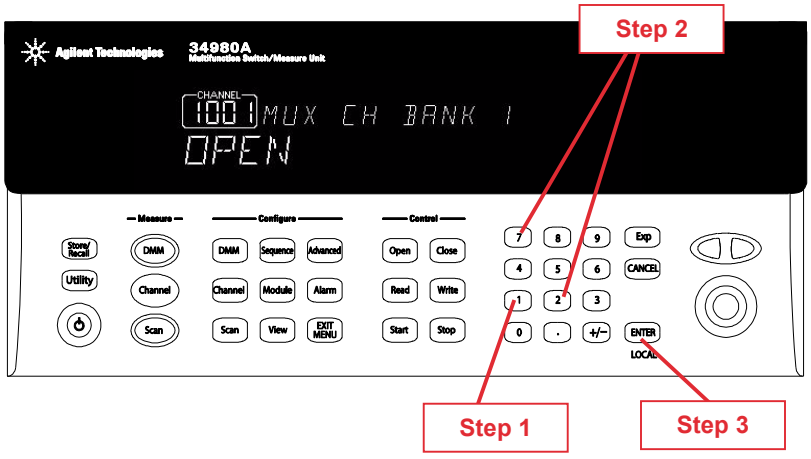
NOTE: Before you can operate the front panel keyboard, connect the power cord to the 34980A and turn the power to the instrument on. If the instrument does not power on properly, contact Agilent Technologies. See page 1 for contact information.

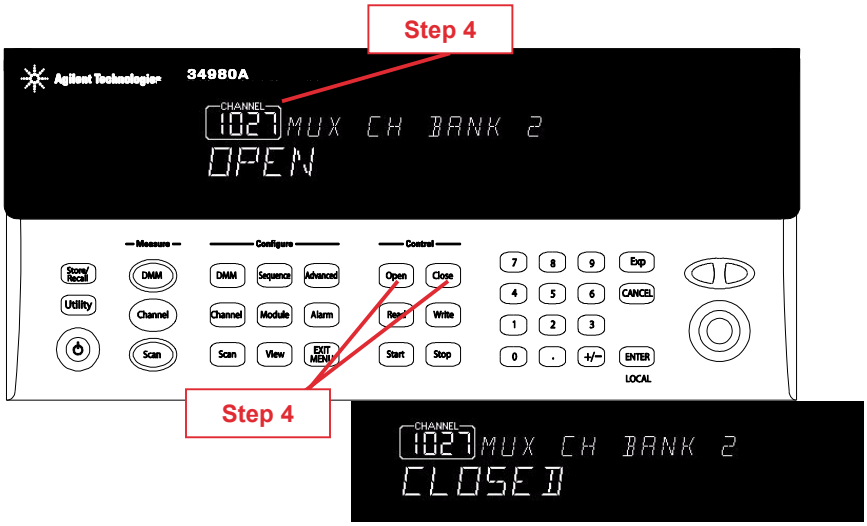
At turn on, elements of the front panel are displayed and keys with the lighting feature also temporarily light. The front panel is ready for operation when the keys are no longer lit and the green channel field on the display shows the first slot in which a module is installed.

Menu Example: Selecting a Channel and Operating the Channel Relay

Use these instructions for any of the MUX modules (34921A, 34922A, 34923A, 34924A, or 34925A). The graphics show the 34921A module installed in slot 1 as an example.

1. Using the number keypad, press 1, which is the number of the slot that contains the MUX module.
2. To select channel 27, press 2, then 7.
3. Press the lighted ENTER key. The light goes out indicating you have completed your channel selection.
4. With channel 1027 selected (displayed in the green channel field), toggle the Close and Open buttons to open and close the channel. The display shows OPEN or CLOSED, as seen in the diagram to the right.

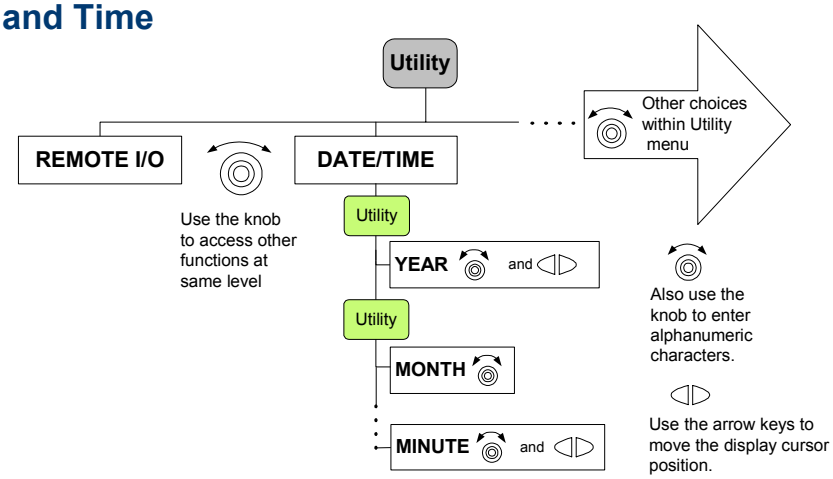




Menu Example: Setting Date and Time

In this example, you will learn fundamental front panel menu operation. Begin the example by pressing the Utility menu key, then follow menu prompts.

NOTE: Use the information in the bulleted list below when you navigate through the Utility menu and through other menus too.



- The navigation structure of the front panel menus is hierarchical, and the menus are self-guiding.
- As you use the front panel, you may be prompted to enter specific parameters.
- To make another choice at the same level within a menu, use the knob.
- In general, to select a displayed parameter and move to the next parameter, press either the lighted menu key or the ENTER key.
- To save changes, keep other parameters at their same value, and immediately exit the menu, press the EXIT MENU key.
- To exit a menu without saving any changes, press the CANCEL key located near the number keypad.
- To select slots and channels so they appear in the green channel field, use the knob.
- To enter alphabetical characters, use the knob.
- To enter numerical characters, use the number keypad or the knob.
- To move the display cursor position, use the left and right arrow keys.
- When you have entered all required parameters, the lighting on the menu key will go out.

Using the Measure Keys

In the following Menu Examples, you will use the front panel Measure keys. The three keys in the Measure group control the taking of measurements, whereas the menu keys in the front panel Configure group allow you to set parameters for measurements. Depending on which measurement key you use, you can have complete/direct control over the switching and measurement operation, or you can have the 34980A automatically control these to capture the desired data.

— Measure —

DMM When you press DMM, the internal DMM takes continuous measurements on whatever signal you have routed to the DMM (allows most flexibility). You control the opening and closing of relays.

Channel When you press Channel, the 34980A controls the relays needed for the internal DMM to make continuous measurements on a single selected channel. The measurement set-up used for a particular channel (specified in the Channel menu in the Configure key group) is stored and recalled whenever you select that channel.

Scan When you press Scan, the 34980A controls all the relays required to make a series of sequential measurements, even across multiple channels with differing measurements. Scan takes measurements, then stores the results in memory.

Menu Example: Configuring the Internal DMM for a Measurement

NOTE: If you have no internal DMM in your 34980A mainframe, skip this Menu Example.

Use these instructions for any of the MUX modules (34921A, 34922A, 34923A, 34924A, or 34925A) or matrix (34931A, 34932A, and 34933A) modules.

1. Before you start, make sure you have a MUX module installed in slot 1. It makes no difference what channel you have selected (shown in the green channel field), because this example is not concerned with channels.

2. To access parameters to configure the internal DMM, press the DMM key in the Configure key group. The DMM key lights.

3. Using the knob to navigate, select AC VOLTS, as shown in the diagram to the right.

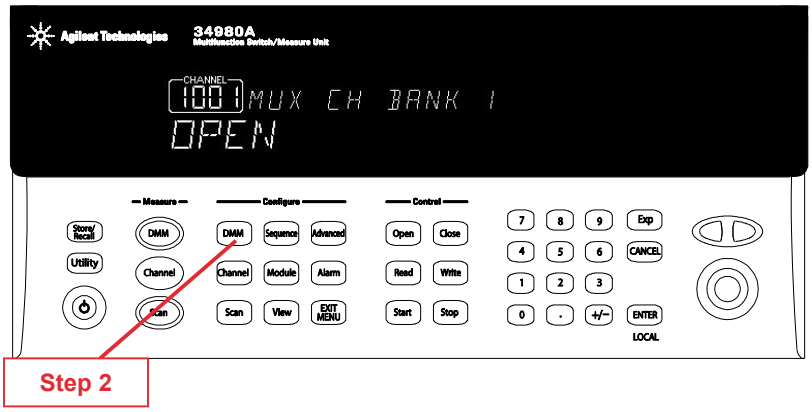
4. Press the lighted DMM menu key to accept the AC Volts function.

5. Using the knob to navigate, select 10V, the range parameter of the AC Volts function. See the diagram to the right.

6. Press the EXIT MENU key to save your selections (AC Volts function and 10V range) and immediately exit the menu. All unchanged parameters in the DMM function remain as they were. When you exit the menu, the DMM menu key light goes out.

7. Press the DMM key in the Measure key group. The key lights, and measurement begins. See the diagram to the right.

8. After pausing to review the continuous measurements displayed on the front panel screen, press the DMM key (in Measure) again. The measurement stops and the light goes out.



In this exercise:

- *You configured the internal DMM for AC Volts measurements*
- *You started measurements, viewed continuous measurement results, and stopped measurements.*

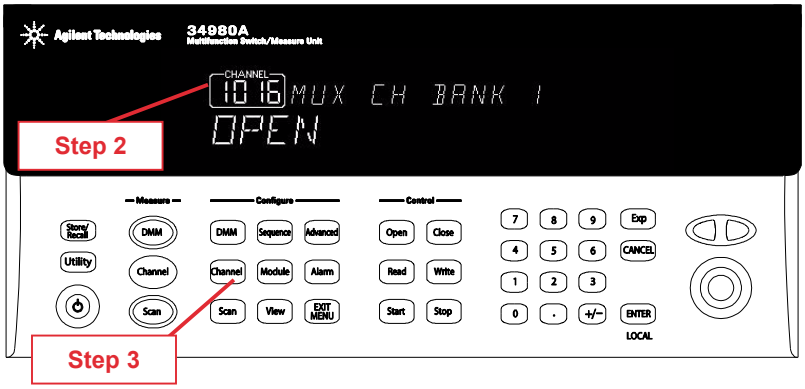
Because you opened/closed no switches, no module or analog bus relays functioned in this exercise. Therefore, the internal DMM acted as a stand-alone instrument and measured whatever AC voltage signals were on the analog buses. Pressing the DMM key (in Measure) also allowed you to monitor continuous measurement results displayed on the front panel.

Menu Example: Configuring a Channel for a Measurement

Use these instructions for any of the MUX modules (34921A, 34922A, 34923A, 34924A, or 34925A).

1. Before you start, make sure you have a MUX module installed in slot 1 of the 34980A.
2. Using the knob to navigate or using the keypad, select channel 1016 (the green channel field displays 1016).
3. To access the configure menu for Channel 1016, press the Channel key in the Configure key group. The Channel key lights.
4. Using the knob to navigate, select the DC VOLTS function, shown in the diagram to the right.
5. Press the lighted Channel key to accept the function.
6. Using the knob to navigate, select 100 mV, the range parameter for the DC Volt function. See the diagram to the right.
7. Press the lighted Channel key repeatedly until CHANNEL LABEL is displayed. See the diagram to the right.
8. At CHANNEL LABEL, use the knob (for alphanumeric characters) and the arrow keys (to move cursor position), enter a channel label of your choice. For an example, see the diagram to the right.
9. Press the lighted Channel key to accept and save the assigned channel label and other changes you have made. At this point you have navigated through the configure channel menu and the light of the channel menu key goes out. See the diagram to the right.

Continue to the next page.



10. Press the Channel key in the Measure key group. The Channel key lights, relays automatically close, and the measurement begins. See the diagrams to the right.

11. After pausing to view the continuous measurements displayed on the front panel screen, press the Channel key (in Measure) again. The light of the key goes out. As you press the Channel key, you can hear the relays automatically opening.

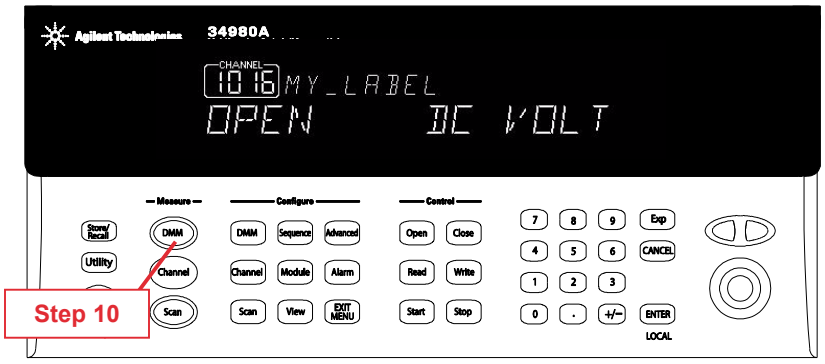
12. Using the three settings listed below, repeat steps 1 through 6. Maintain other parameter values.
    - Channel 1014
    - AC VOLTS function
    - 1V range

13. Press the EXIT MENU key to accept your new settings and keep other parameters at their same value in the configure channel menu.

14. With Channel 1014 appearing in the green channel field, press the Channel key in the Measure key group. The channel key lights, relays automatically close, and measurements begin.

15. With the Channel key still lighted, turn the knob to display channel 1016 (in the green channel field). You should see a measurement start for DC VOLTS, your previously configured function for channel 16.

Continue to the next page.



16. Still with the Channel key active, slowly turn the knob between channels 16 and 14 to monitor the measurement results for those channels. As you pass Channel 15, which is not configured for a measurement, you will see Channel 15 relay is open and measurement is off. See the diagram to the right.

Step 16

17. Press the Channel (in Measure) key so the light is off. Monitoring capabilities are off now, but you can still see the function configuration on channels 14 and 16. See the diagram to the right as an example.

Step 17

In this exercise:

- *You configured channel 16 for DC volt measurements.*
- *With the Channel key (in Measure), you started, viewed results, and stopped continuous DC volt measurements taken on channel 16.*
- *You configured channel 14 for AC volt measurements.*
- *With the Channel key (in Measure), you started, viewed results, and stopped continuous AC volt measurements taken on channel 14.*
- *You monitored channels with the Channel (in Measure) key activated (key is lighted). Using the knob, you scrolled between channels 14 and 16 to alternatively start, view, and stop continuous measurements on the channels.*

Connecting the 34980A to Your Computer

NOTE: To easily connect the 34980A to your PC, configure and verify your connection, you can use the new Agilent IO Libraries Suite, the E2094M Agilent IO Libraries for Windows, or an equivalent.

- Agilent IO Libraries Suite for Windows 98/2000/ME/XP. For information and to install, use the *"Automation-Ready CD with Agilent IO Libraries Suite,"* which is shipped with the 34980A.
- E2094M Agilent IO Libraries for Windows 98/NT/2000/ME/XP. You can find information and install this application via the Web at www.agilent.com/find/iolib.
- You can also access other information about Agilent IO Libraries at www.agilent.com/find/iolib

NOTE: The procedures in this section frequently refer to the *Agilent Technologies USB/LAN/GPIB Interfaces Connectivity Guide*. If you have installed the IO Libraries Suite, you can access the Connectivity Guide via the Agilent IO Libraries Control icon. Or, you can access the Connectivity Guide via the Web at www.agilent.com/find/connectivity.

Connecting Over LAN

Selecting the LAN Network Type

You can connect and configure your 34980A for site LAN or isolated (non-site) LAN

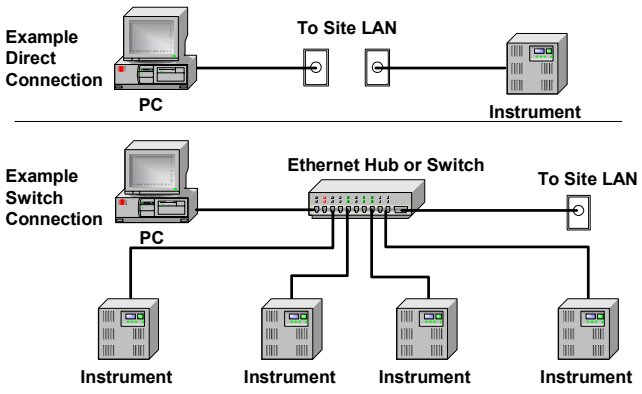
A site LAN network is defined as a local area network (LAN) in which computers and LAN-enabled instruments are connected to a site LAN (workgroup LAN, Intranet, or enterprise LAN) via optional routers, hubs, and/or switches.

An isolated (non-site) LAN network is defined as a local area network (LAN) in which computers and LAN-enabled instruments are not connected to a site LAN. A crossover cable is provided with your 34980A. You can use it for a direct connection between the 34980A and your PC. Crossover cables are also supported by some newer LAN switches or routers.

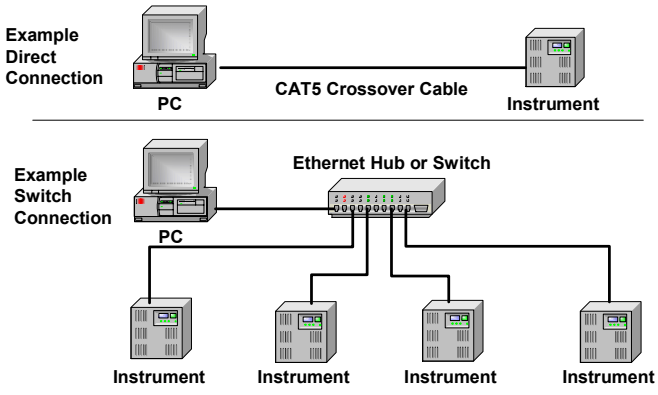
These diagrams show examples of typical site LAN and isolated (non-site) LAN networks.

Select the LAN network type you will use to connect the 34980A to your computer. Then follow the procedure on page 16 or page 17 that corresponds to your selected LAN network type.

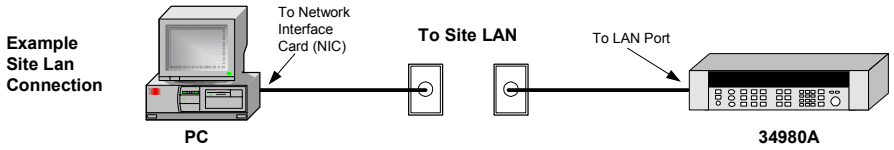
Typical Site LAN Networks



Typical Isolated (Non-Site) LAN Networks



Connecting Via Site LAN



1. Using a standard LAN patch cable, connect both the computer and the 34980A to LAN wall outlets.

2. Make sure the power to the computer is on and the computer is completely booted. Then turn the power to the 34980A on.

3. Following the diagram at the right, navigate through the 34980A front panel Utility menu to ensure that DHCP to ON (ON is the factory default state).

   NOTE: If your LAN does not support DHCP, refer to the Connectivity Guide.

4. Press EXIT MENU, which saves any changes and defaults other parameters in the Utility menu.

5. Wait for between 30 seconds and one minute to allow the DHCP server to assign an address.

6. Beginning with the Utility menu key again, navigate to LAN SETTINGS and select VIEW. Following the diagram, view the instrument's IP address and other LAN settings. Make note of the IP address.

   34980A IP Address:_____

7. Press EXIT MENU.

8. At this time you are also ready to use the 34980A Web Interface to access and control the instrument. See page 21 of this document for using the Web Interface.

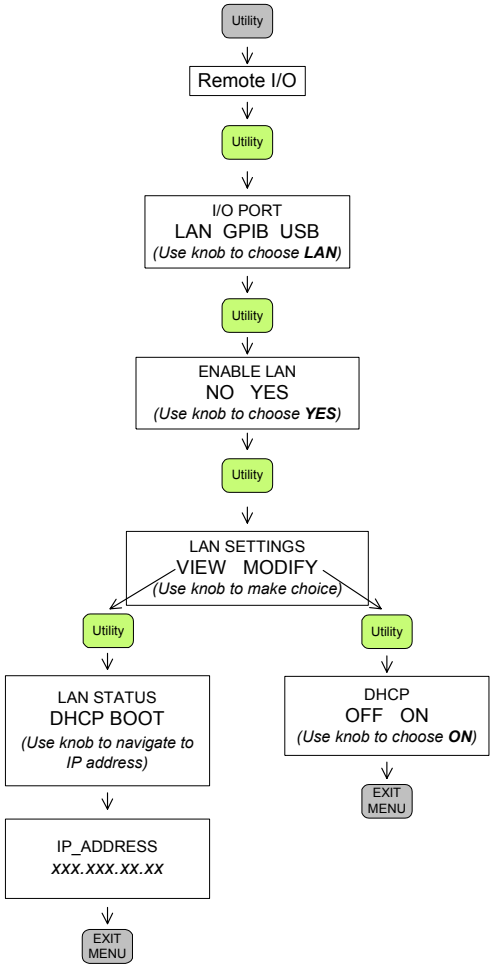
9. If you intend to program over LAN or use such programs, make sure you have installed I/O software on your computer.

10. Use the Connection Expert utility of the IO Libraries Suite to add the 34980A and verify a connection. When identifying the instrument, it is easiest to use the IP address that you noted in step 6 above.

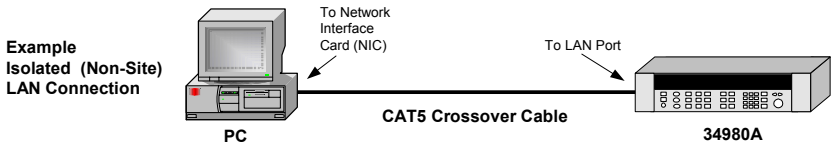
    NOTE: If you have installed other I/O software, refer to documentation that accompanies the software.

11. Now you can use various programming environments to control the 34980A. For an overview about programming instruments via LAN, refer to the Connectivity Guide.

Front Panel Navigation



Connecting Via Isolated (Non-Site) LAN



1. Using the CAT5 crossover cable (part number 5061-0701) provided with the 34980A, connect the computer to the instrument.

2. Make sure the power to the computer is on and the computer is completely booted. Then turn the power to the 34980A on.

3. Following the diagram on page 16, navigate through the 34980A front panel Utility menu and set DHCP to OFF.

4. Press EXIT MENU, which saves your changes and defaults other parameters in the Utility menu.

5. Beginning with the Utility menu key again, navigate to LAN SETTINGS and select VIEW. Following the diagram, view the instrument's IP address and other LAN settings. Make note of the IP address.

   34980A IP Address:_____

6. Press EXIT MENU.

7. At this time you are ready to use the 34980A Web Interface to access and control the instrument. See page 21 of this document for using the Web Interface.

8. If you intend to program over LAN or use such programs, make sure you have installed I/O software on your PC.

9. Use the Connection Expert utility of the IO Libraries Suite to add the 34980A and verify a connection. When identifying the instrument for this task, it is easiest to use the IP address that you noted in step 5 above.

   NOTE: If you have installed other I/O software, refer to documentation that accompanies the software.

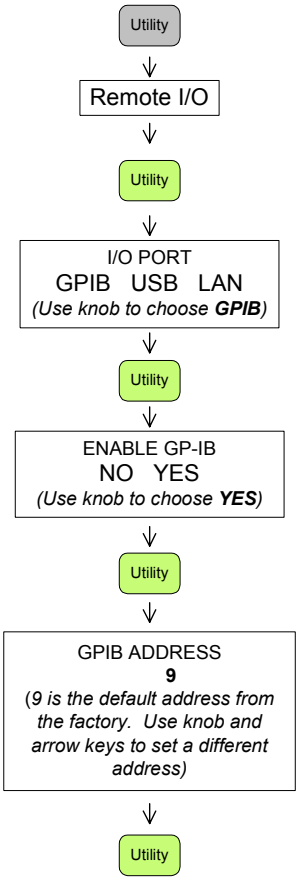
10. Now you can use various programming environments to control the 34980A. For an overview about programming instruments via LAN, refer to the Connectivity Guide.

Connecting Over GPIB

1. Install, or make sure you have installed, I/O software on your computer.
2. Follow your GPIB interface card vendor's instructions for installing GPIB hardware on your computer.
3. Connect a GPIB cable between your computer and the 34980A.
4. Follow your GPIB interface card vendor's instructions for installing GPIB hardware and software on your computer.
5. Connect a GPIB cable between your computer and the 34980A.
6. Make sure the power to the computer is on and the computer is completely booted. Then turn the power to the 34980A on.
7. Configure the installed GPIB card as the vendor instructs.
8. Use the Connection Expert utility of IO Libraries Suite to verify that the 34980A is displayed under the GPIB interface definition.

   NOTE: If you have installed other I/O software, refer to documentation that accompanies the software.
9. The 34980A arrives from the factory with a default GPIB address of 9. Follow the navigation diagram at the right to set a different address.
10. Now you can use various programming environments to control the 34980A. For further information, refer to your GPIB card vendor's guide. Refer to the Connectivity Guide for an overview about programming instruments.

Front Panel Navigation



Connecting Over USB

NOTE: Before connecting the USB cable, make sure that I/O software is installed on your computer. See page 15 for information about Agilent IO Libraries software.

1. After I/O software is installed on your computer, connect a standard USB cable between your computer and the 34980A.

2. Make sure the power to the computer is on and the computer is completely booted. Then turn the power to the 34980A on.

3. Found New Hardware Wizard automatically starts and guides you through configuring the 34980A as a USB device. To install the software automatically, accept all defaults.

   NOTE: If you installed Agilent IO Libraries software, you also installed low-level drivers. Therefore, you do not need to insert the CD when Found New Hardware Wizards requests you to do so.

4. Use the Connection Expert utility of the IO Libraries Suite to verify that the 34980A is displayed under the USB interface.

   NOTE: If you have installed other I/O software, refer to documentation that accompanies the software.

5. When the Wizard has finished configuring the 34980A, you can use Connection Expert in the IO Libraries Suite to check instrument identification.

6. Now you can use various programming environments to control the 34980A. For an overview about programming instruments via USB, refer to the Connectivity Guide.

Communicating with the 34980A

You can use either instrument drivers or SCPI commands (in any programming environment) to communicate with the 34980A. However, Agilent has designed drivers that work best in recommended environments, as shown in the following table. To install drivers and their associated help, refer to the 34980A Product Reference CD, which is shipped with the 34980A. Also, Agilent has written example programs to use. To find program examples, refer to the 34980A Product Reference CD.

Programming Environment	**Driver(s)**
Microsoft® Visual C® version 6.0, Visual C++®, and ANSI C	IVI-C, IVI-COM
Microsoft® Visual Basic® version 6.0	IVI-C, IVI-COM
Microsoft® Visual Studio®. NET for C#, C, and Visual Basic	IVI-COM
Agilent VEE	IVI-C
National Instrument's LabVIEW®	LabVIEW® Plug and Play (native mode), IVI-C
National Instrument's LabWindows/VCI®	IVI-C

Exploring the 34980A Web Interface Over LAN

This section acquaints you with basic use of the 34980A Web Interface. The 34980A Web Interface works with the 34980A mainframe and all installed modules. The 34921A MUX module is used in this section for example.

You can use the 34980A's built-in Web Interface for remote access and control of the instrument via a Java™-enabled Web browser, such as Microsoft ® Internet Explorer. Using the Web Interface, you can configure, troubleshoot, and monitor your system remotely.

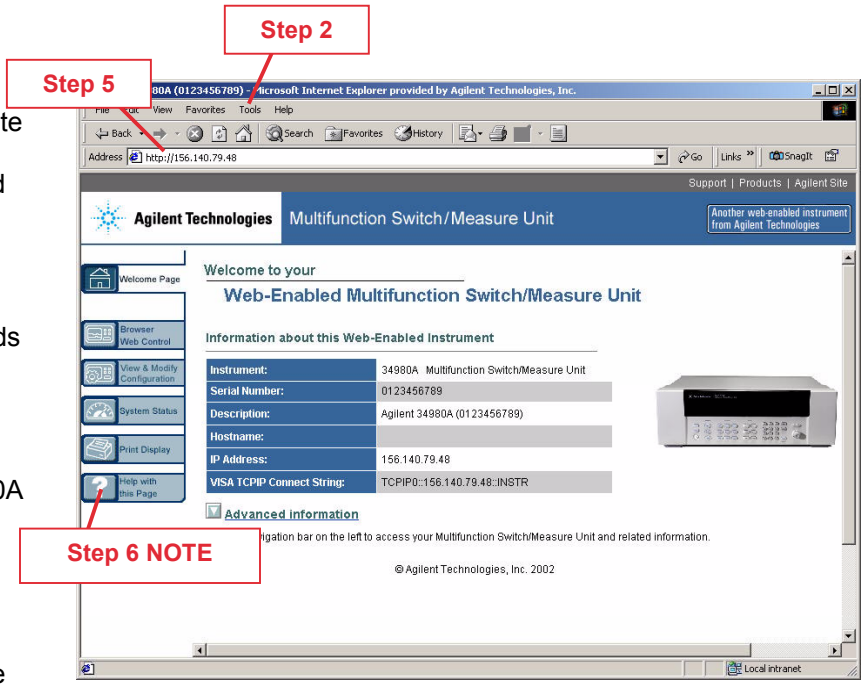
NOTE: The following tasks assume you have configured the 34980A for LAN communication and have verified connection to a LAN network. See pages 16 and 17 of this document for LAN connection instructions.

Launching the Web Interface

1. Open your internet browser from your computer.
2. In Tools>Internet Options, navigate to Connections (exact navigation depends upon your browser), and select LAN Settings.
3. In LAN settings, select/activate bypass proxy server for local addresses (exact wording depends up on your browser).
4. Exit the options window.
5. Enter the IP address of the 34980A in the Address field and press return.

   NOTE: When entering the instrument's IP address, refer to the IP address you wrote on page 16 or 17, or use the Utility menu from the front panel of the 34980A to access the instrument's IP address.
6. The Welcome to your Web-Enabled Multifunction Switch/Measure Unit window appears.

   NOTE: The procedures on the following pages help you learn tasks that are commonly performed using the Web Interface. For additional help on using the interface, click on the ?Help with the Page button at the left of the Web Interface window.

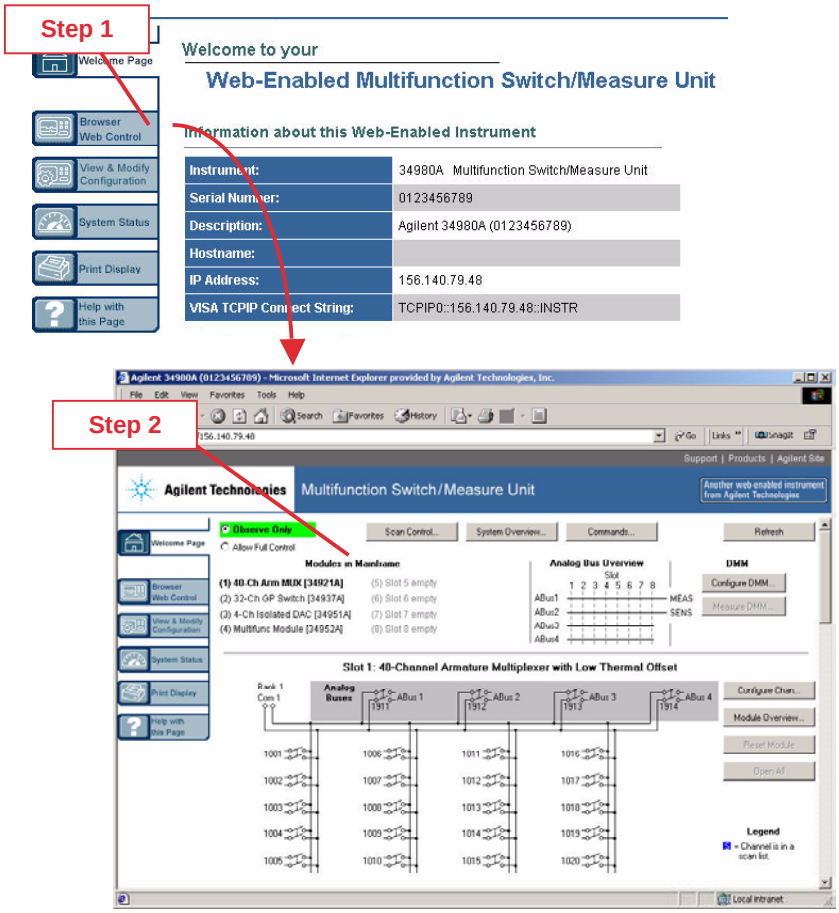


Displaying the Browser Web Control Page

1. From the Welcome Page, click the Browser Web Control tab on the left side of the window to display the Brower Web Control page.

2. From this page, you can view and modify the configuration of the plug-in modules currently installed in the 34980A mainframe.

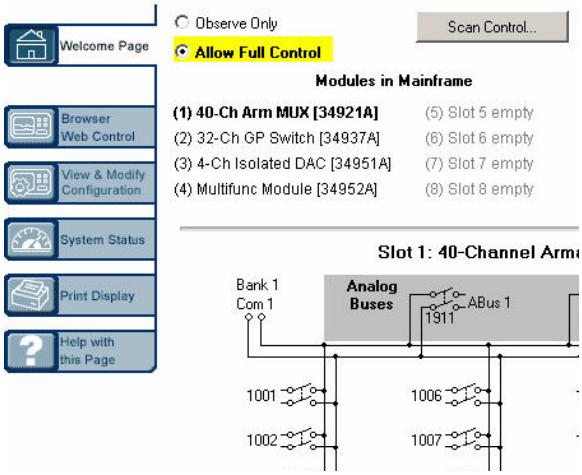
NOTE: When you initially launch this page, the type and model of the module in the first occupied slot is selected in bold text, and the configuration of that module is displayed. To view the configuration of another module installed in the mainframe, click on the module type and model in the list of Modules in Mainframe.



Selecting the "Allow Full Control" Mode

Select the Allow Full Control radio button. This feature allows you to open and close channel relays and modify the state of the module.

NOTE: You can assign a password to a 34980A from the instrument's front panel Utility menu. This password will "password protect" the transition from Observe Only mode to Allow Full Control mode.

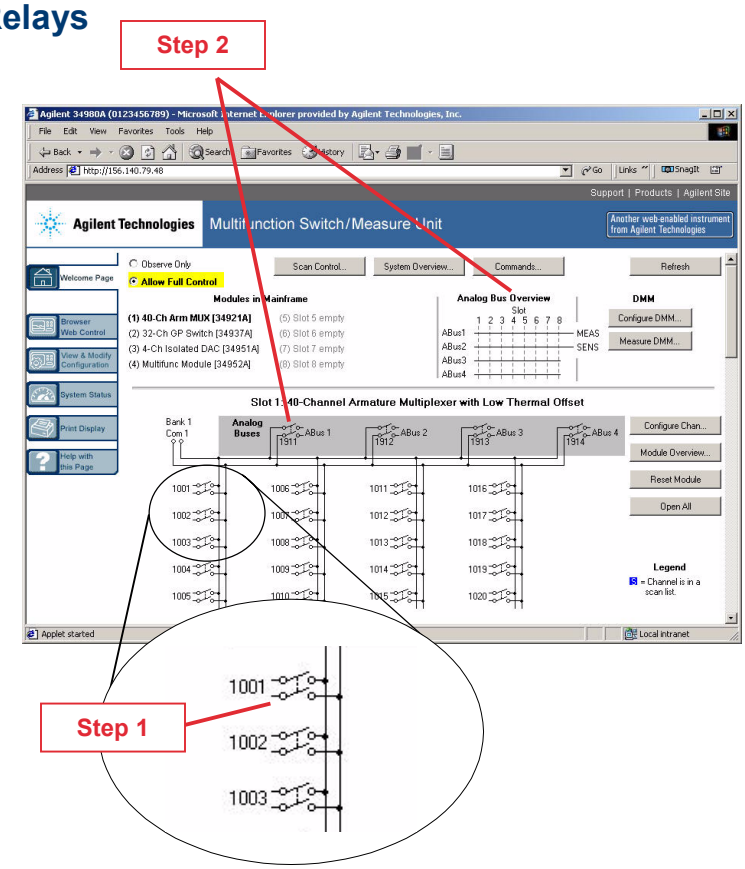


Closing and Opening Channel Relays

NOTE: You must be in Allow Full Control mode to close and open channels.

1. To close a channel, left-click directly on a switch graphic. To open a channel, click again on the same switch graphic.

2. You can also open/close the four Analog Bus relays left-clicking the analog bus switch graphics. The "Analog Bus Overview" display near the top of the window shows the slot-by-slot status of the Analog Buses.

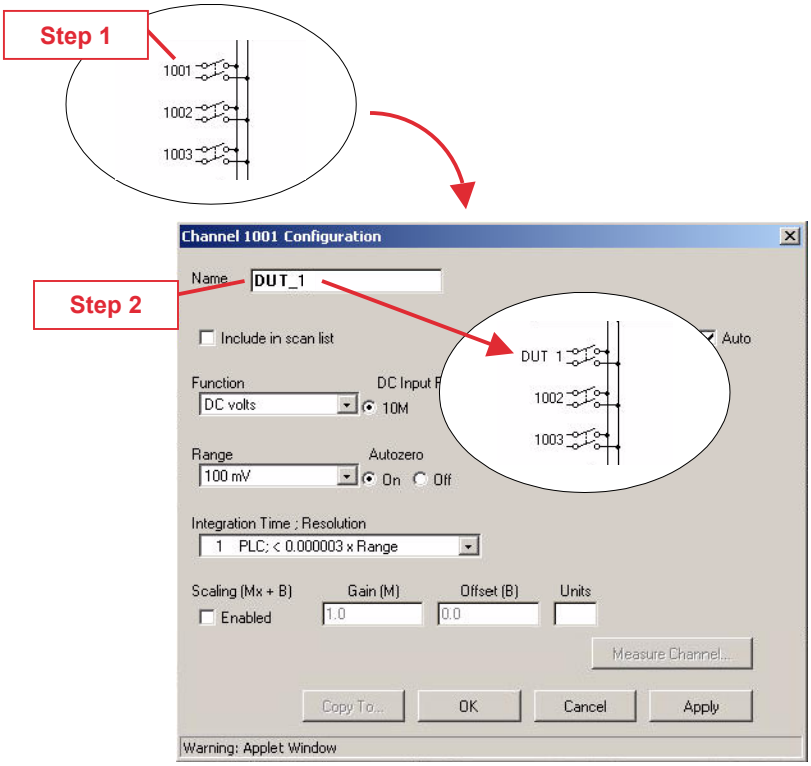


Modifying the Channel Configuration

NOTE: You must be in Allow Full Control mode to modify the channel configuration.

1. To modify the measurement configuration of individual channels (e.g. add channel labels, set function, range, etc.), right-click directly on the switch graphic. The "Channel Configuration" dialog box for that switch is displayed.

2. For this example, change the name of Channel 1001 to "DUT_1." Click OK.



Sending SCPI Commands Using the Web Interface

Use the SCPI Command Interface dialog window to send SCPI commands to the 34980A and read responses back from the instrument.

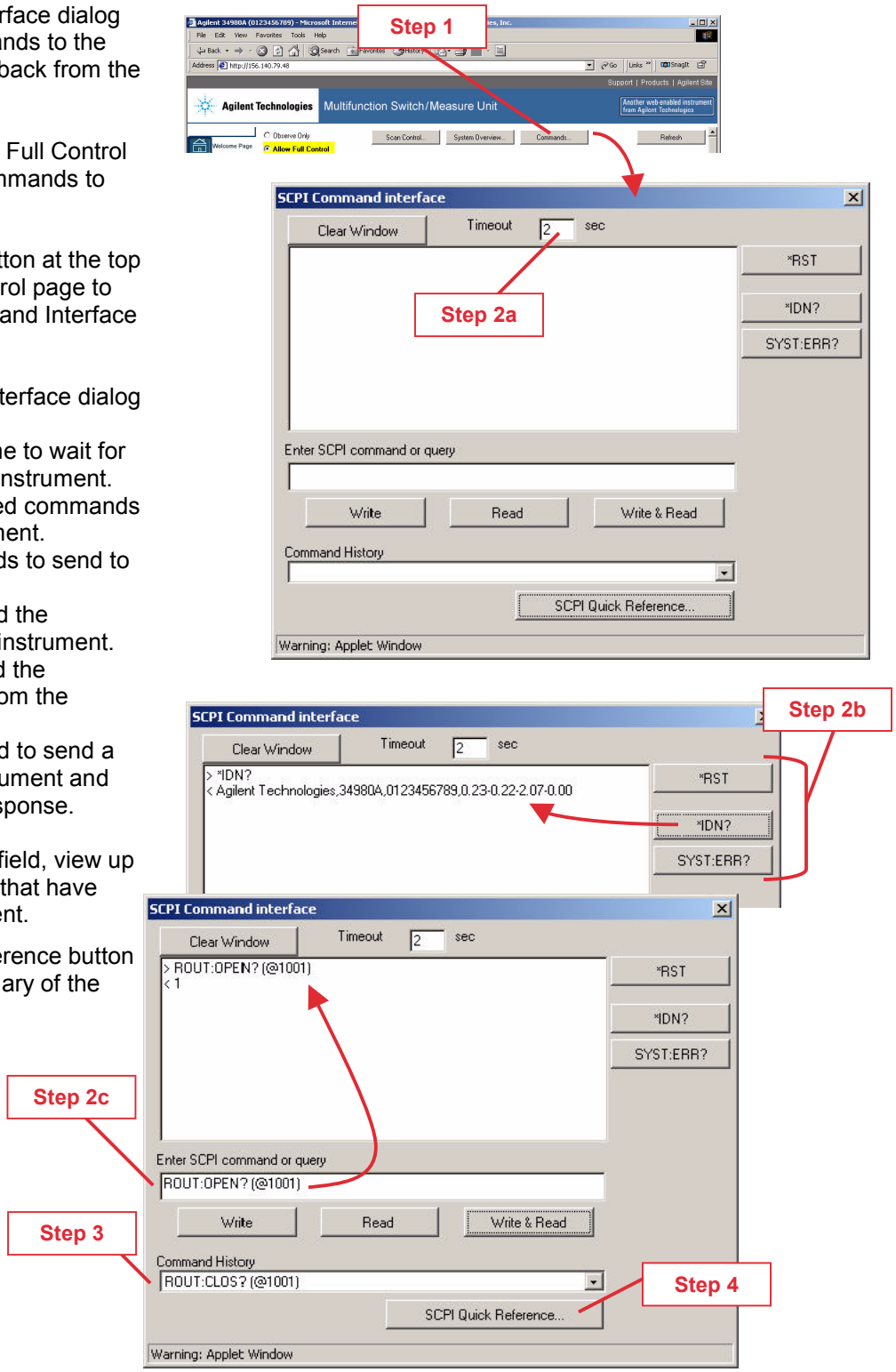
NOTE: You must be in Allow Full Control mode to enter instrument commands to the 34980A.

1. Press the Commands button at the top of the Web Browser Control page to bring up the SCPI Command Interface dialog window.

2. In the SCPI Command Interface dialog window, you can:
   a. Set the amount of time to wait for a response from the instrument.
   b. Select commonly-used commands to send to the instrument.
   c. Enter SCPI commands to send to the 34980A.
      1. Use Write to send the command to the instrument.
      2. Use Read to read the response back from the instrument.
      3. Use Write & Read to send a query to the instrument and read back the response.

3. In the Command History field, view up to the last 20 commands that have been sent to the instrument.

4. Use the SCPI Quick Reference button to access a syntax summary of the Abe SCPI commands.



Documentation Map

If you want to….	Go here….	Comments
Install Agilent IO Libraries Suite	Automation-Ready CD	• Automation-Ready CD is shipped with 34980A • Find installation instructions and other information at www.agilent.com/find/iolib
Refer to “Agilent Connectivity Guide”	Automation-Ready CD	• Automation-Ready CD is shipped with the 34980A • Find “Agilent Connectivity Guide” on the Web at www.agilent.com/find/connectivity. Click on “Library,” then click on "Manuals & Guides."
Learn more about Web Interface	On-line help system accessed from Web Interface windows	Click on the ?Help with this Page button at the left of the Web Interface window.
Learn more about front panel menu content	34980A User’s Guide	Shipped with the 34980A
Learn SCPI commands	• Programmer’s Reference on-line help system • Quick Reference Guide	You will find both the Programmer’s Reference and the Quick Reference Guide on the 34980A Product Reference CD
Learn more about 34980A mainframe	34980A User’s Guide	Shipped with the 34980A
Learn more about 34980A plug-in modules	34980A User’s Guide	Shipped with the 34980A

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